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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,559	11/09/2001	David Kenyon Vail	GCSD-1162 (51234)	2979

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EXAMINER

VERBITSKY, GAIL KAPLAN

ART UNIT PAPER NUMBER

2859

DATE MAILED: 04/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/991,559

Applicant(s)

Vail et al.

Examiner

Gail Verbitsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jan 23, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above, claim(s) 10-18, 26-32, and 39-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 19-25, and 33-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 6) ☐ Other:

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DETAILED ACTION

Restriction/ Election

1. Applicant's election of species A, claims 1-9, 19-25 and 33-38, Paper # 6, without traverse is hereby acknowledged. Claims 10-18, 26-32 and 39-44 are withdrawn from further consideration as drawn to non-elected invention.

Priority

2. Acknowledgment is made of applicant's claim for domestic priority under 35 U.S.C. 119(e).

Claim Objections

3. Claims 3, 19, 35 are objected to because of the following informalities:
Perhaps applicant should replace "times" in the last line of the claims with --time--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 4, 20, 36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case, the claim language is confusing because, it is not clear how one

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calibration resistor can comprise a high calibration resistor and a low calibration resistor (or two resistors).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3, 5-7, 19, 21-23, 33-35, 37-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Levine et al. (U.S. 4841458) [hereinafter Levine].

Levine discloses in Fig. 2 a device forming a digital signal representing an environmental condition, i.e., temperature (col. 1, lines 31-34), the device comprising a capacitor 220 which is charged through a thermistor 211 to a predetermined voltage threshold. When said voltage threshold is reached, a microprocessor 110, having a time counter, determines a time (elapsed time) which corresponds to a temperature at the thermistor. When a second measurement is done, the elapsed time is corresponding to a resistance on a precision (circuit element/ calibration) resistor 213 (col. 2, lines 20-33 and col. 6, lines 47-68). Typically the microprocessor looks at a look-up table to convert the time to the corresponding temperature (col. 5, lines 19-21). Inherently, the microprocessor comprises a control logic for controlling a driver which should be coupled to said thermistor/ calibration resistor. A transistor 144 is connected to the capacitor in

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order to discharge it when it is determined that the capacitor has been charge responsive to a logic signal "1" from the controller. It is also inherent that the controller does not charge the capacitor constantly but does it sequentially.

With respect to claims 33-35, 37-38: the method steps will be met during the normal operation of the device.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 20, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine in view of Chen et al. (U.S. 6100510) [hereinafter Chen].

Levine discloses the device as stated above in paragraph 7.

Levine does not disclose that the calibration resistor/ device comprises a high and low resistors.

Chen discloses a calibration device (circuit) comprising a high and low calibration resistors included in arms of a Wheatstone bridge.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Levine, so as to have the calibration

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device comprising two, high and low resistors (ranges), as taught by Chen, so as to allow the device to be used at measuring/ determining different temperature ranges.

10. Claims 8, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine in view of Beery et al. (U.S. 3946285) [hereinafter Beery].

Levine discloses the device as stated above in paragraph 7.

Levine does not disclose a Schmitt (Shmitt) hysteresis device.

Beery discloses the device in the filed of applicant's endeavor comprising a Schmitt hysteresis device (trigger) connected to a capacitor and providing hysteresis and reducing noise.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the trigger disclosed by Levine, with a Schmitt trigger, as taught by Beery, so as to provide a circuit with a hysteresis and reduce noise, as already suggested by Beery.

11. Claims 9, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levine in view of Kumar et al. (U.S. 6416471) [hereinafter Kumar].

Levine discloses the device as stated above in paragraph 7.

Levine does not disclose that the controller is implemented on an ASIC.

Kumar teaches that it is known in the art that a microcontroller (controller) can be implemented in an ASIC (col. 9, lines 30-40).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device, disclosed by Levine, so as to implement a controller in an ASIC, as taught by Kumar, in order to provide a device positioned on a single printed circuit board and thus, minimize the size of the device and simplify the manufacturing process.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior cited in the PTO-892 and not mentioned above disclose related devices and methods.

14. Any inquiry concerning this communication should be directed to Examiner Verbitsky who can be reached at (703) 306-5473 Monday through Friday 7:00 to 4:00 ET.

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Any inquiry of general nature should be directed to the Group Receptionist who can be reached at (703) 308-0956.

GKV

March 12, 2003



Gail Verbitsky

Patent Examiner, TC 2800